

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

SIERRA APPLIED SCIENCES, INC.,

Plaintiff,

- vs. -

KURT J. LESKER COMPANY, et al.

Defendants.

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:

Civil Action No. 01-628

Honorable Donetta W. Ambrose
Chief Judge

Submission by Special Master

Paul A. Beck, Special Master.

**REPORT AND RECOMMENDATION TO THE COURT BY THE
SPECIAL MASTER ADDRESSING ALL SUMMARY JUDGMENT ISSUES
PURSUANT TO COURT ORDER MARCH 23, 2005**

August 10, 2005

FILED
AUG 10 2005
CLERK, U.S. DISTRICT COURT
WEST. DIST. OF PENNSYLVANIA

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Defendants.	:	Submission by Special Master
	:	

Paul A. Beck, Special Master.

**REPORT AND RECOMMENDATION TO THE COURT BY THE
SPECIAL MASTER ADDRESSING ALL SUMMARY JUDGMENT ISSUES
PURSUANT TO COURT ORDER MARCH 23, 2005**

**- I -
INTRODUCTION**

1. This is the Special Master's ("Master") Report and Recommendation to the Court addressing all summary judgment issues.

2. The Master was appointed by Order of Court dated March 23, 2005 to report on and make recommendations for all summary judgment issues.

3. Plaintiff ("Sierra") and defendant ("Lesker") filed motions for summary judgment on June 17, 2005.

- II -
SUMMARY OF REQUESTS FOR
SUMMARY JUDGMENT MOTIONS
AND
SUMMARY OF MASTER’S RULING ON
RECOMMENDATIONS TO THE COURT

A. LESKER’S MOTION

Lesker’s Motion for Partial Summary Judgment (“Sierra Motion”)

requests judgment in its favor regarding:

1. non-infringement of Manley Patent ‘028; and
2. invalidity of Manley Patent ‘028.

B. SIERRA’S MOTION

Sierra’s Motion for Partial Summary Judgment (“Lesker Motion”) requests judgment in its favor regarding:

1. invalidity of Manley Patent ‘028;
2. that Sierra intentionally failed to disclose to the Examiner:
 - (i) prior art and mischaracterized art that Sierra did disclose;

- (ii) identity of another inventor; and
- (iii) a prior sale by Sierra that occurred more than one year prior to the filing date of Manley Patent '028.

**C. MASTER'S RULING
RECOMMENDATION
ON LESKER'S MOTION**

As To Non-Infringement

1. Lesker's Motion for Summary Judgment in its favor that there is no literal infringement by Lesker's cathodes is denied.
2. Lesker's Motion for Summary Judgment in its favor that Lesker's cathodes do not infringe under the Doctrine of Equivalents due to prosecution estoppel, the Master rules:
 - (i) there is a prosecution estoppel with regard to the language "substantially within" and Sierra is precluded from proving infringement under the Doctrine of Equivalents for the limitation "substantially within"; and
 - (ii) there is no prosecution estoppel as to any other term or elements.

As To Willful Infringement

Lesker's Motion for Summary Judgment in its favor that Lekser has not willfully infringed is denied.

As To Invalidity of the Manley Patent '028

Lesker's Motion for Summary Judgment in its favor that the Manley Patent '028 is invalid under 35 U.S.C. §§ 102 and 103 is denied.

**D. MASTER'S RULING RECOMMENDATION
ON SIERRA'S MOTION**

As To Invalidity of the Manley Patent '028

1. Sierra's Motion for Summary Judgment in its favor and against Lesker that Patent '028 is invalid under 35 U.S.C. § 102 because of lack of a named co-inventor is denied.
2. Sierra's Motion for Summary Judgment in its favor and against Lesker that Patent '028 is invalid under 35 U.S.C. §102 because there was a sale more than one (1) year prior to the filing date of Patent '028 is denied.

**As To Sierra Intentionally Misleading
The Examiner Rising To Inequitable Conduct**

Sierra's Motion for Summary Judgment in its favor and against Lesker that Sierra/Manley intentionally misled the examiner is granted.

E. MASTER'S COMMENTS

Lesker and Sierra do not dispute any principles of law. The parties dispute facts and conclusions of fact drawn from each party's view of inferences that are drawn from facts.

**- III -
GENERAL PRINCIPLES OF LAW USED TO
DETERMINE SUMMARY JUDGMENT**

1. Summary judgment shall be rendered if the pleadings, depositions, answer to interrogatories and admissions, together with affidavits show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law. Fed. R. Civ. P. 56 (c).

2. The following applies to Fed. R. Civ. P. 56 (c):

(i) If a reasonable jury could return a verdict for the non-movant the dispute is genuine; and

(ii) The substantive law will identify which facts are

material. Only disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 246-49 (1986).

3. The court must review all the evidence in the light most favorable to the non-movant. *Matsuhita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986).

- IV -

THE TECHNOLOGY OF THE MANLEY PATENT '028

The technology of Manley Patent '028 relates to magnetron sputtering that has improved plasma-confining magnetic fields that increase sputtering efficiency with low aspect ratio targets.

The invention is directed to a method of glow discharge sputtering. A magnetic field is generated by magnetic flux lines forming lobes that are located substantially within a sputtering region. Each of the lobes creates a glow discharge-confining magnetic tunnel.

The invention is also directed to a magnet assembly for achieving the above method of glow discharge.

- V -

LESKER'S MOTION

A. LESKER'S MOTION REQUESTS

Lesker's Motion for Summary Judgment requests:

- (i) that the Lesker cathodes do not literally infringe:
 - a. the linear cathode;
 - b. the 6-inch round cathode; and
 - c. the 7-inch found cathode;
- (ii) that the Lesker cathodes do not infringe Manley Patent '028 under the doctrine of equivalents due to prosecution estoppel;
- (iii) in Lesker's favor against Sierra on Sierra's claim for willful infringement; and
- (iv) that the Manley Patent'028 is invalid. (Lesker Motion, pp. 44-45).

B. LESKER'S POSITION THAT THERE IS NO LITERAL INFRINGEMENT

1. Lesker developed a magnetron sputtering cathode in 1999. This cathode is sold in linear, 6-inch; and 7-inch round designs. The cathode is the subject of Sierra's infringement claim against Lesker. (Lesker Motion, p. 5, ¶ 18).

2. The Parties have agreed that the claims of Patent '028 at issue are 9, 10, 20 and 50. (Lesker Motion, p. 9, ¶ 37). Lesker focuses on certain elements in those claims.

3. Within these claims, the parties have agreed that, for purposes of analyzing infringement of the Lesker cathodes, the claim elements/restrictions at issue relate to application of the following terms and phrases:

(a) The requirement that each of the claimed four lobes and associated null point is located **substantially within the sputtering region** of the target; and

(b) Each lobe acts as a **separate plasma-confining tunnel**, (Lesker Motion, p. 10).

4. Lesker agrees that the remaining elements of the subject claims, under the Court's current claim construction opinion, are satisfied by the Lesker cathodes.

Id. The Master interprets this to mean that the remaining elements of the claims are found in Lesker's cathodes.

5. The Master interprets that the "a" and "b" above are the only elements in the claims where there is a question whether or not Lesker's cathode structure or process

steps are within the scope of these elements of the claims in Patent '028.

6. The Court made a claim construction of certain claim terms as quoted here from Lesker's Motion: (Lesker's Motion, pp.12 – 14, ¶'s 45-49) as follows:

(i) The court held that **sputtering region** means:

After careful consideration, I conclude that the sputtering region is the volume within which the target is to be sputtered.

(ii) The Court held that **substantially within** means with respect to the four lobes:

After careful consideration, I conclude that the phrase 'substantially within said sputtering region' means the magnetic lobes are located largely, but not wholly, within the sputtering region. Figures 3 and 7 of the Manley Patent support this conclusion. The upper, lower, inner and outer magnetic lobes are, in these illustrations, located largely, but not wholly, within the target body, or adjacent thereto - i.e., within the sputtering region.

(iii) The Court held that **substantially within** means with respect to the null point:

After careful consideration, I conclude that the null point exists in space separating the four lobes and

substantially within the target body.

(iv) The Court held that **separate plasma-confining tunnel**

means:

I find that the phrase “plasma-confining magnetic tunnel” means that each magnetic lobe forms a separate plasma-confining tunnel. That is, each tunnel acts separately to confine or restrict the plasma near the surface of the target. Sputtering occurs in each tunnel and the effect becomes more pronounced as the target material erodes. The specifications confirm that the magnetic tunnels are separate. See Manley Patent, Col. 4, lines 1-4, “[a] basic embodiment of the sputtering magnet assembly for generating the four separate closed-loop plasma-confining magnetic tunnels including”; Col. 6, lines 37-38 (“...forms a separate closed-loop plasma-confining magnetic tunnel....”); Col. 8, lines 7-8 (“...forms a separate closed-loop plasma-confining magnetic tunnel....”); and Col. 8, lines 35-36 (“forms an individual closed-loop magnetic tunnel.”). The specifications also reference the fact that the sputtering becomes more pronounced as the target material erodes. See Manley Patent, Col. 6, lines 38-40 (“...with each tunnel having a more pronounced effect on the plasmas the target material gradually erodes away....”). Finally, expert testimony also confirms that the tunnels are separate, and have a more pronounced effect as the target erodes away. See Hearing Testimony, p. 171 (Ruzic) and p. 75-76, 83-84 (Schlesinger).

7. Lesker also notes that the Court held that each of these restrictions is present in Claims 9, 10, 20 and 50. *Id.* p.14. Lesker notes that for Claim 50, the Court has rejected the contention that this is an independent claim and held that it generally incorporated “the limitation of Claims 1-10 with respect to the location of the magnetic field.” *Id.*

8. The Master is puzzled by Lesker’s statement regarding claim 50 that the “Court has rejected the contention that this is an independent claim”. The Master in reading claim 50 understands it not to refer to any other claim and therefore not to be dependent on any other claim. Therefore, the Master reads claim 50 as being an independent claim. The Master assumes there is some explanation that will clarify this point.

9. Lesker argues that:

- (i) each of the lobes of Lesker’s cathode must be substantially within the sputtering region of the target and each lobe must act as a separate plasma - confining terminal;
- (ii) its cathodes do not fall within the claims of Patent ‘028;

- (iii) Sierra has offered only flawed modeling and no real measurement of the cathodes to support Sierra's infringement claim;
- (iv) as a result, Sierra is unable to carry its burden to prove infringement;
- (v) Sierra has possessed a Lesker cathode since 2000 and has never conducted any actual measurement or testing of the magnetic field;
- (vi) Sierra relied upon computer modeling to support its claim;
- (vii) Sierra's expert conceded that the modeling is flawed because of input errors;
- (viii) Lesker, on the other hand, has made actual measurements of the magnetic fields and those measurements confirm that Lesker does not infringe the claims of Patent '028; and

- (ix) that Lesker's bottom lobe of its magnetic field is not substantially within the sputtering region and the bottom lobe does not act as a separate plasma confining tunnel.
(Lesker 6-17-05 Br., pp. 1-2; Lesker Motion, pp. 22-23).

10. Lesker attacks Sierra's Expert's (Dr. Schlesinger) analysis to show infringement for many reasons such as:

- (i) he is not an expert in finite element analysis (FEA);
- (ii) the data used was inaccurate;
- (iii) did not account for gaps between the magnets; magnet degradation; actual magnet design in the inner ring;
- (iv) error were pointed out by Dr. Lamberth that Dr. Schlesinger agreed; and
- (v) that Dr. Schlesinger agreed that FEA is an approximation of reality.
(Lesker Motion, pp. 23-24).

11. Lesker on the other hand conducted actual measurements on the Lesker cathodes in conjunction with Lesker's technical experts Drs. Ruzic and Lamberth. Sierra was invited to participate in some of these measurements but declined. (Lesker Motion, pp. 27-28, ¶'s 96-100).

12. Lesker quantified the magnetic field strength to confine plasma. Lesker finds that its cathode does not allow for a sufficient magnetic field strength for the bottom lobe to confine plasma and offers the expert Ruzic's report in support of it. (Lesker Motion, p. 32, ¶'s 119-121).

13. Lesker argues that, "no valid or credible evidence has been offered to support the infringement claim". In contrast, Lesker argues that it explored reality and submitted actual measurements of the magnetic field that confirm that there is no infringement. (Lesker 6-17-05 Br., p. 17).

C. SIERRA'S POSITION THAT THERE IS LITERAL INFRINGEMENT

1. Sierra relies:

(i) upon Dr. Schlesinger's testimony that the Lesker

cathodes meet the limitations of Manley Patent '028,
(Sierra's 7-1-05 Resp., p. 11, ¶ 64);

- (ii) upon Dr. Schlesinger's testimony that the round cathode generates a magnetic field with a bottom lobe substantially within the sputtering region that meet the limitation of plasma confining tunnels, (Sierra 7-1-05 Resp., p. 11, ¶ 65);
- (iii) upon Dr. Schlesinger's testimony that finite element analysis (FEA) approximate solutions to problems that from any practical engineering point of view is reality; (Sierra 7-1-05 Resp., p. 13, ¶ 70);
- (iv) upon Manley's testimony that finite element analysis give what you measure in reality very closely; (Sierra 7-1-05 Resp., p. 13, ¶ 70); and
- (v) upon the fact that Dr. Schlesinger used Lesker's measurements as part of the basis for his opinions (Sierra 7-1-05 Resp., p. 14, ¶ 73).

2. Dr. Schlesinger has not been subject to a challenge under the *Daubert* case.

The Court has accepted Dr. Schlesinger as an expert witness (Sierra 7-01-05 Br., p. 5).

3. Dr. Schlesinger offered opinions and explained why each of the elements in Patent '028 claims 10 and 50 in the suit is present in the Lesker cathodes. (Sierra 7-1-05 Br., p.4).

**D. THE MASTER'S ANALYSIS
ON THE ISSUE OF
LITERAL INFRINGEMENT**

1. Determining infringement is a two-step analysis. The steps are:

- (i) interpret the claims of the patent to determine their scope and meaning; and

- (ii) measure the accused product against the claims.

Smithkline Beecham Corp. v. Apotex Corp., 403 F.3d
1331, 1337 (Fed. Cir. 2005).

2. Lesker is charged with infringing claims 9, 10, 20 and 50 (Lesker Motion, p. 9, ¶ 37). Sierra has the burden of establishing infringement by a preponderance of the

evidence. *Smithkline Beecham Corp.*, 403 F.3d at 1355.

3. The Court construed the claims.

4. Whether the elements of the claims in dispute are found in Lesker's cathodes will determine whether there is literal infringement. Comparing the accused product against the claims is a question of fact. *W.E. Hall Co. v. Atlanta Corrugating, LLC*, 370 F.3d 1343, 1350 (Fed. Cir. 2004). The determination of whether Lesker's cathodes have the disputed claim elements is material.

5. Sierra, as the owner of the Patent, has the burden of proof of infringement by a preponderance of the evidence. *Smithkline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1335 (Fed. Cir. 2005).

6. When deciding a motion for summary judgment all inferences are resolved in favor of the non-movant. Dr. Schlesinger has provided a sufficient basis that a trier of fact could find that the disputed claim elements are found in Lesker's cathodes.

7. For the above reason, there is a genuine dispute of material fact and Lesker's Motion for Summary Judgment that there is no literal infringement should be denied.

**E. LESKER'S POSITION ON WHY
APPLICATION OF THE DOCTRINE
OF EQUIVALENTS IS NOT AVAILABLE
TO SIERRA TO PROVE INFRINGEMENT**

1. Lesker argues:

- (i) that patentee, Manley, argued to the Patent Examiner that a lobe outside the target is not equivalent to the lobe structure and function in the Manley Patent; (Lesker Motion, p. 35, ¶ 128; Lesker 7-11-05 Reply Br., p. 7);
- (ii) that Dr. Schlesinger stated each lobe in the patent is a separate feature; (Lesker Motion, p. 35, ¶ 129);
- (iii) that both Drs. Ruzic and Lamberth found the bottom lobe of the Lesker cathode is not equivalent to a lobe substantially within the sputtering region of the target and that acts as a separate plasma confining tunnel. (*Id.*, ¶ 130);
- (iv) that Sierra's position that if the bottom lobe in Lesker's cathode does not act as a separate plasma confining

tunnel, it is still equivalent to the patent element is wrong. Lesker argues that this argument by Sierra is without merit because Sierra is prevented from using the doctrine of equivalents to show infringement. The reason is that claim elements were added as amendments to the patent application to avoid prior art objections (Lesker, 6-17-05 Br., p. 20);

- (v) the bottom lobe of the magnetic field of Lesker's cathode cannot function in an equivalent manner to the bottom lobe in Manley Patent '028 because the bottom lobe in the Lesker cathode does not confine plasma. (*Id.*, pp. 20-21);

- (vi) all operative claims in Manley Patent '028 were amended to include the "substantially within" restriction (Lesker 7-11-5 Reply Br., p. 7). The Master does not know what Lesker means by "operative claims". The Master notes that claim 50 does not have the language "substantially within"; and

- (vii) not all claims had the restriction that each lobe acts as a separate plasma confining tunnel. Manley, in an amendment, tied the location of the magnetic field to the separate plasma-confining abilities of the lobes.
(Lesker 7-11-05 Reply Br., p. 7).

F. SIERRA'S POSITION ON WHY THE DOCTRINE OF EQUIVALENTS IS AVAILABLE TO IT TO SHOW INFRINGEMENT

1. Sierra acknowledges that Lesker is correct that Sierra would not be entitled to find infringement under the doctrine of equivalents if Manley narrowed the claims for a substantial reason related to patentability to add:

- (i) four magnetic lobes in the sputtering region; and
- (ii) four lobes that are separate plasma confirming tunnels.
(Sierra 7-1-05 Resp. Br., p. 8).

2. Sierra argues that the limitations were present all along in what became claims 9 and 10. (Sierra 7-1-05 Resp. Br., p. 8.) Claim 50 was added as a new claim but contains the same limitations contained in the original claims 9 and 10 requiring four

lobes “substantially within” the sputtering region. (Sierra 7-1-05 Resp. Br., p. 9) The Master does not find ‘substantially within” in claim 50. There may be an explanation for this which is not known to the Master.

**G. THE MASTER’S ANALYSIS OF APPLICATION OF
THE DOCTRINE OF EQUIVALENTS AND ESTOPPEL
TO DETERMINE INFRINGEMENT**

1. Lesker is asking for declaratory judgment against Sierra that Lesker’s cathode does not infringe Manley Patent ‘028 under the Doctrine of Equivalents due to prosecution estoppel. (Lesker’s Motion, p. 44, ¶ 163).
2. Lesker gives specifics of its request in its brief. Lesker explains that Sierra argues to the extent that the bottom lobe in the magnetic field associated with the Lesker cathode does not act as a separate plasma confining tunnel, infringement still arises under the doctrine of equivalents. Lesker says this is without merit.
3. Claim 10, as originally filed, became claim 9 in the issued Patent ‘028. Claim 10 as filed claimed a four lobed field and forming a closed loop over the sputtering region and includes four lobes. Each lobe creates a tunnel. (File History, Amendment in Response to Office Action dated April 30, 1992, pp. 6-7).
4. “Though prosecution history estoppel can bar challenges to a wide range of

equivalents, its reach requires an examination of the subject matter surrendered by the narrowing amendment”. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. Ltd.*, 535 U.S. 722, 737 (2002).

5. Claim 10 of the application as filed for Patent ‘028 had four lobes each lobe creating a glow discharge-confining tunnel. After the Amendment Application claim 10 still had the four lobes each forming a tunnel. There is no estoppel as to the existence of the four lobes creating a glow discharge – confining magnetic tunnel. The doctrine of equivalents is available to Sierra on this point because there is no estoppel. In other words nothing was surrendered on this point by the Amendment.

6. Lesker argues that the claims were amended to include the restriction “substantially within”. The Master agrees. The language “in about” is in the original claim 10. “Substantially within” is not the same as “in about”. “Substantially within” is narrower because it means the magnetic lobes are located largely, but not wholly, within the sputtering region”. (Court’s claim construction.) This requires a quantitative amount of the lobe inside the sputtering region. This language was added to claim 10 of the Application to avoid the Welty reference. (File History Amendment Response to Office Action dated April 30, 1992, pp. 7 and 23).

7. There is an estoppel with regard to the language “substantially within” that

was added to avoid the Welty patent reference.

8. There is a presumption that the filing of a narrowing amendment surrenders all subject matter between the original claim limitations and the amended claim limitations. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushki Co. Ltd.*, 344 F.3d 1359, 1365 (Fed. Cir. 2003).

9. The application and scope of prosecution history estoppel as well as whether the presumption of surrender of equivalents has arisen and whether the surrender has been rebutted are all questions of law for the court. *Festo Corp.*, 344 F.3d at 1367-69. The Master has ruled that there is an estoppel with regard to the “substantially within” limitation. Therefore, there is a presumption that all equivalence to “substantially within” has been surrendered.

10. Sierra could have overcome the presumption by doing one of the following:

- (i) Demonstrating that the alleged equivalent would have been unforeseeable at the time of the narrowing amendment;
- (ii) Demonstrating that the rationale underlying the narrowing amendment bore no more than a tangential

relation to the equivalent in question; or

- (iii) Demonstrating that there was some other reason suggesting that the patentee could not reasonably have been expected to have described the alleged equivalent.

Festo Corp., 344 F.3d at 1369.

11. Sierra has not shown any of the above.

12. Sierra's argument that the amendment was not a narrowing amendment is not significantly probative because the construction of "substantially within" as it pertains to the lobes is narrower than "in about" that appears in the original claims. This is explained further in paragraph 6 above. Summary judgment is proper where the non-moving party's evidence in opposition to a properly supported motion for summary judgment is not significantly probative. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 249-50 (1986).

13. The Master grants Lesker's Motion for Summary Judgment that Sierra is precluded from proving infringement by Lesker's cathode under the Doctrine of Equivalents for the limitation, "substantially within."

14. Sierra may argue the Doctrine of Equivalents with respect to “separate plasma-confining tunnel.”

15. Sierra has argued that the “null point” was inherent. Lesker has not argued that the “null point” was not inherent. Therefore, Sierra may argue the Doctrine of Equivalents with respect to the “null-point” because it has not been shown that there has been amendment that created a prosecution estoppel with respect to the “null-point.”

**H. LESKER’S POSITION
ON THE ISSUE OF
WILLFUL INFRINGEMENT**

1. Lesker requests judgment in its favor on Sierra’s claim for willful infringement. (Lesker Motion, p. 44, ¶ 164).
2. Lesker argues that the fact finder must find clear and convincing evidence that Lesker acted in wonton disregard of Patent ‘028. (Lesker 6-17-05 Br., p. 21).
3. Lesker argues that it designed its cathode to avoid Patent ‘028.
4. Lesker received advice of patent counsel that its design did not infringe Patent ‘028. (Lesker 6-17-5 Br., p. 21).

**I. SIERRA'S POSITION
ON THE ISSUE OF
WILFUL INFRINGEMENT**

1. Sierra argues:

- (i) that Sierra disputes that Lesker designed its cathode to avoid Patent '028 citing Brown's testimony that the cathode was designed for good process reasons;
- (ii) that the legal opinion letter given to Lesker is not competent for many cited reasons; and
- (iii) that the legal opinion letter is silent on Lesker's efforts to design around Patent '028. (Sierra 7-1-05 Br., pp. 11 – 15).

2. For these reasons Sierra argues that there are genuine issues of material fact.

**J. MASTER'S ANALYSIS
OF THE ISSUE OF
WILLFUL INFRINGEMENT**

1. Willful infringement is a question of fact and Sierra has the burden to

establish it by clear and convincing evidence. *SRI International Inc. v. Advanced Technology Laboratories, Inc.*, 127 F.3d 1462, 1465 (Fed. Cir. 1997).

2. The court looks “to the totality of the circumstances.” *Comark Communications, Inc., v. Harris Corp.*, 156 F.3d 1182, 1190 (Fed. Cir. 1998).

3. A factor is whether the infringer obtained opinion of counsel. *Comark Communications, Inc.*, 156 F.3d at 1191. The competency of the opinion relied upon by the infringer is a part of the totality of circumstances. *SRI International, Inc.*, 127 F.3d at 1465.

4. Inferences of fact must be decided from the totality of the circumstances. The fact finder and not the Master should draw those inferences from the totality of all the facts and circumstances.

5. There is a genuine dispute between the parties on the factual inference to be drawn from the totality of all the circumstances. The inferences of fact will determine the outcome of whether Lesker’s conduct was willful.

6. Lesker’s Motion for Summary Judgment in Lesker’s favor on the issue of willful infringement should be denied.

**K. LESKER'S POSITION ON THE ISSUE
THAT PATENT '028 IS INVALID
UNDER 35 U.S.C. §§ 103 (a) & 102 (a)**

1. Lesker requests a judgment that Patent '028 is invalid. (Lesker's Motion, p. 45).

2. Lesker argues:

(i) Patent '028 is obvious under 35 U.S.C. 103 (a) in view of FEA modeling of prior art. (Lesker 6-17-05 Br., p. 2). The prior art Lesker relies upon are publications describing Lesker's commercialization of Kertesz technology; Morrison Patents '688, '954, '611, Arita Patent '968, Kay Patent '816, Kertesz Patent '083; and Welty Patent '133;

(ii) The Patent Examiner cited many of these patents. Manley argued that these prior art references did not show the magnetic field because FEA modeling was not done. Lesker argues that FEA modeling shows the Examiner's objections were right and Manley was wrong. Lesker has modeled the references to determine if Manley Patent '028 is anticipated and

obvious by the above named prior art. Lesker says its investigation confirms the invalidity of Manley Patent; and

- (iii) The Arita Patent '968 invalidates the Manley Patent '028 because it anticipates Manley Patent '028 under 35 U.S.C. § 102 (a). (Lesker 6-17-05 Br., pp. 23-29).

**L. SIERRA'S POSITION ON THE
ISSUE THAT PATENT '028 IS INVALID
UNDER 35 U.S.C. §§ 103 (a) & 102 (a)**

Sierra argues:

- (i) Dr. Schlesinger (Sierra's expert) explained in his report why the references either separately or in combination do not render the claims of Manley Patent '028 obvious and why many teach away from the Manley Patent '028;
- (ii) Dr. Schlesinger came to a different conclusion than Lesker on Lesker's modeling. Lesker found the Manley Patent '038 claims inherent in the Kertesz Patent '083 and Morrison '688. Dr. Schlesinger found missing parameters

needed for modeling. Dr. Schlesinger therefore, reached a different conclusion. Dr. Schlesinger pointed out that modeling results vary depending on missing parameters not disclosed in Kertesz Patent. Dr. Schlesinger's modeling gave something that differs in appearance from the modeling done by Lesker and by Brown;

- (iii) modeling of the Torus 10 is not associated with any identified physical device and cannot be used to invalidate Manley Patent '028;
- (iv) Lesker does not address the requirement that the prior art references contain a suggestion or incentive to combine the prior art references to create the Manley invention;
- (v) Dr. Schlesinger disagreed with Lesker's experts that Arita Patent '968 shows the four-lobed field claimed in the Manley Patent '028. He noted that the required elements of the

Manley Patent '028 claims of a four-lobed field
with a null point between the lobes is not
disclosed in Arita Patent '968;

- (vi) Dr. Schlesinger disputed that the magnet array
in Arita Patent '968 is the same claimed in
Manley Patent '028. (Sierra Response 7-1-05
Br., pp. 17 – 22).

**M. MASTER'S ANALYSIS
OF THE ISSUES OF INVALIDITY**

1. Lesker argues that Manley Patent '028 is invalid because:
 - (i) it is obvious in view of prior art patent references
under 35 U.S.C. §103 (a). Lesker argues what those
references disclose; and
 - (ii) it is anticipated by Arita Patent '968 under 35
U.S.C. §102 (a). Lesker argues what technology is
disclosed in Arita.
2. A patent is presumed to be valid. 35 U.S.C. § 282. The presumption can

only be overcome by clear and convincing evidence. *Eli Lilly & Co. v. Barr Labs*, 251 F.3d 955, 962 (Fed. Cir. 2001).

3. Sierra, through its expert Dr. Schlesinger, disputes with his reasoning and analysis Lesker's position what technology the prior art references disclose.

4. The determination of obviousness under 35 U.S.C. 103 involves factual matters.

“While the ultimate question of patent validity is one of law, *A. & P. Tea Co. v. Supermarket Corp.*, *Supra*, at 155, the § 103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances.” *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

5. The scope and content of the prior art are in dispute. The difference

between the prior art and the claims at issue are in dispute. The facts in dispute are material because the resolution of them will bear on the resolution of the validity of Patent '028. The dispute of fact is genuine.

6. Lesker has argued that the Arita Patent '968 anticipates the Manley Patent '028 and is invalid under 35 U.S. C. 102 (a) (Lesker 6-17-05 Br., p. 28).

7. What Arita Patent '968 discloses in relation to the claims of Manley Patent '028 are disputed. Dr. Schlesinger opines that Arita Patent '968 does not show the four-lobed field claimed in the Manley Patent '028.

8. Anticipation is a question of fact. *Smithkline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1343, (Fed. Cir. 2005).

9. This fact dispute is material for the resolution of the invalidity issue and is genuine.

10. The Lesker Motion for Summary Judgment should be denied.

- VI -
SIERRA'S MOTION

1. Sierra has requested summary judgment with respect to defenses and counterclaims by Lesker as follows:

- (i) invalidity of Patent '028 under 35 U. S. C. §§ 102, 103 and 112;
- (ii) that Sierra/Manley misled the Patent Examiner and intentionally failed to disclose and mischaracterize material prior art;
- (iii) Sierra/Manley intentionally failed to disclose a sale of the invention of Patent '028 that occurred more than a year prior to the filing date of Patent '028; and
- (iv) that Sierra/Manley intentionally concealed the identity of other inventors. (Sierra Motion).

2. Sierra's Briefs (Sierra 6-17-05 and 7-11-05 Brs.) do not address any argument for invalidity under 35 U.S.C. §§ 103 or 112 in support of the motion. The

Master will assume for purposes of this motion for summary judgment those sections of Title 35 U.S.C. are not an issue.

3. For purposes of organization of the Master Report:

(a) Under the umbrella issue of invalidity under 35 U.S.C.

§102 are the issues of:

(i) lack of named co-inventor; and

(ii) prior sale:

(b) Under the umbrella issue of inequitable conduct are the issues of intentionally:

(i) misleading the Patent Examiner;

(ii) not disclosing material prior art;

(iii) mischaracterizing material prior art;

- (iv) not disclosing a sale of the invention that occurred more than a year prior to the filing date of Patent '028; and
- (v) concealing the identity of other inventors.

**A. SIERRA'S POSITION
WITH RESPECT TO INVALIDITY
UNDER 35 U.S.C. §102
BECAUSE CO-INVENTORS
WERE NOT NAMED**

Sierra argues that there is no invalidity of Patent '028 based upon Lesker's assertion that co-inventors were not named in Patent '028 by Sierra or Manley.

The basis of Sierra's position is:

- (i) there is no evidence other than one interested witness, John Miller, that there are any other inventors other than Barry Manley;
- (ii) there is no evidence to corroborate Miller's testimony; and
- (iii) because there is no corroboration of Miller's testimony Miller's testimony is insufficient to prove improper inventorship as a matter of law. (Sierra 6-17-05 Br., pp. 8-9).

**B. LESKER'S POSITION
ON THE ISSUE
OF CO-INVENTOR**

Lesker argues:

- (i) evidence exists which corroborates John Miller's testimony of his involvement with the invention;
- (ii) the corroborating documents are engineering notes written by Miller that predate April 1991 that reflect Miller's development and testing of the cathode;
- (iii) documents showing Miller's communication with Manley and technical information on Sierra cathodes that was given by Miller to Manley;
- (iv) there is evidence that Welty contributed to the invention. Manley received a copy of an invention disclosure made by Welty to Vac-Tec Systems; and
- (iv) Manley acknowledged that he was working with Welty and took confidential documents with him. (Lesker 7-01-05 Br., p. 17).

**C. MASTER'S ANALYSIS OF THE ISSUE
OF INVALIDITY UNDER 35 U.S.C. §102
BECAUSE CO-INVENTORS WERE NOT NAMED**

1. One alleging co-inventorship must prove it by clear and convincing evidence. *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1327 (Fed. Cir. 2004).
2. Co-inventors must prove their contributions with more than their own testimony. *Id.* Whether the alleged co-inventor's testimony has been sufficiently corroborated is evaluated under a rule of reason that requires evaluation of all pertinent evidence. *Id.*
3. Sierra argues that a rule of reason analysis cannot even be performed because there is no corroborating evidence. Therefore Sierra argues Lesker can not demonstrate the existence of a co-inventor by clear and convincing evidence.
4. Miller and Welty are the persons who are allegedly co-inventors. Lesker argues that there are corroborating documents in the form of:
 - (i) engineering notes written by Miller before April, 1991;
 - (ii) documents showing Miller's communication with Manley and technical information on Sierra cathodes that were given by Miller to Manley;

(iii) a copy of an invention disclosure made by Welty and received by Manley; and

(iv) documents that Manley received while Manley was working with Welty.

5. There is a dispute of fact of whether there exist documents and if they exist, whether they corroborate the testimony or existence of other co-inventors such as Miller and Welty.

6. The existence of corroborating documents and their interpretation on whether they corroborate whether others are co-inventors is material. A reasonable jury may find corroboration sufficient for Lesker to meet its burden of proof.

7. The determination of corroboration of another alleged inventor's contribution will have a bearing on the determination of the co-inventorship. There is genuine dispute of a material fact.

8. Sierra's Motion for Summary Judgment against Lesker that Patent '028 is invalid because of lack of a named co-inventor should be denied.

**D. SIERRA'S POSITION WITH RESPECT
TO INVALIDITY UNDER 35 U.S.C. 102 (b)
BECAUSE OF A SALE MORE THAN
ONE YEAR BEFORE FILING PATENT '028**

Sierra argues (Sierra 6-17-05 Br., pp. 9-15):

- (i) Lesker has only provided testimony of one person, John Miller, who is biased;
- (ii) Miller's testimony has not been corroborated. As a matter of law that is an insufficient basis to invalidate a patent; and
- (iii) Miller's testimony is inconsistent. Miller testified:
 - (1) that a first sale of the cathode occurred March 20, 1990 according to purchase order no.13016 to U.S. Optical;
 - (2) that the first sale was to Nobler Technologies, January 19, 1990;
 - (3) that all cathodes sold to Nobler used the Patent '028 magnet array because he saw them while working with Manley;

- (4) his independent company Materials Science rebuilt an early magnet module for U.S. Optical in 1997 and that he believed the magnet module U.S. Optical sent to Materials Science for rebuild reflected Patent '028 magnet design built in March that is evidenced by purchase order dated March 1990, July 1990, March 1991, actually dated April 17, 1991; and
- (5) later testified he could not tell which magnet module sent for rebuild was one referenced in March 1990 or one issued in January 1993 after the Patent'028 was filed;
- (iv) The purchase orders may appear to be corroboration but have nothing on their face to tie these to the invention of Patent '028;
- (v) The documentary evidence is insufficient to corroborate Miller's testimony of sales prior to the critical date;

- (vi) except for the three purchase orders Exhibits J, K, L, there is nothing to tie the invoices to particular cathodes with a particular magnet array. The only tie between the purchase orders and the Patent '028 invention is Miller's testimony that the Patent '028 invention required a 5/8 thick target that could not have been used on earlier models. Exhibit L, purchase order of April 17, 1991, does not mention target thickness. Documents from 1989, before Miller claimed the Patent '028 invention existed, called for the use of a 3/4 thick target. Miller dismissed his 1989 letter as saying, "salesmanship on my part, plain and simple.";
- (vii) Miller's testimony is inconsistent;
- (viii) Miller's testimony where he claimed Nobler only bought one type of a cathode, the new style having the Patent '028 assembly, is contradicted by testimony of Schwartz who worked at Nobler and bought cathodes from Sierra. Schwartz testified that he received several different models of cathodes from Sierra;

- (ix) the documentary evidence does not independently establish corroboration and is therefore far from clear and convincing;
- (x) there is no single piece of corroborating evidence dated prior to the critical date of June 1, 1991 that discloses the limitation of the Manley claim; and
- (xi) under the rule of reason analysis of the law there is no independent corroboration of Miller's testimony.

E. LESKER'S POSITION ON THE SALE OF THE CATHODE MORE THAN ONE YEAR BEFORE FILING PATENT '028

Lesker argues (Lesker 7-1-05 Br., pp. 2-11):

- (i) Miller was able to identify, within a few months of the first quarter of 1998, a first sale;
- (ii) Miller testified that the Manley Patent '028 design existed and was sold before June 1, 1991;
- (iii) Miller's testimony is supported by corroborative documents such as

purchase orders and quotes from Materials Science in 1989-1991.

The corroboration documents and testimony of others:

- (1) letter dated April 14, 1990 Miller informed U.S. Optical DISC that test results validate its use on a 0.625 inch thick aluminum target.
- (2) The letter corroborates Miller testimony that BCE/Sierra did not have the ability to sell cathodes that could sputter thick targets up to $\frac{3}{4}$ inch thick.
- (3) Miller sent a letter on September 6, 1990 to Schwartz of Nobler Technologies informing Schwartz of Sierra's new magnetic assembly.
- (4) Miller informed his sales representatives of a paper, "A Module Approach".
- (5) The paper was presented at March 1992 Society of Vacuum Coaters meeting and highlighted the high utilization cathodes previously sold to Innotec by

Material Science as indicted by purchase orders dated January 17, 1991, (PO 1305) and March 20, 1991 (PO 13064). Miller provided the related photographs of the resulting erosion profiles to Innotec.

(6) Sierra magnet covers dated April 4, 1991 show covers that fit over a cathode magnet assembly and have cutouts to receive auxiliary magnets consistent with the Manley Patent design. The cutouts were made to receive auxiliary magnets used in the Patent '028 invention.

(7) Patrick Manley testified: he was employed by Sierra and he oversaw engineering; he repaired assemblies and he only saw assemblies coming back to Sierra with the Manley Patent '028 design.

**F. MASTER'S ANALYSIS OF THE ISSUE OF
INVALIDITY UNDER 35 U.S.C. 102 (b)
BECAUSE OF A SALE MORE THAN
ONE YEAR BEFORE FILING PATENT '028**

1. A person may be entitled to a patent unless the invention was on sale more than a year prior to the date of the application for patent. 35 U.S.C. 102(b).

The critical date is May 31, 1991 because the Manley Patent '028 was filed June 1, 1992.

2. The burden of proof by one asserting a prior sale to invalidate a patent is by clear and convincing evidence. *Finnegan Corp. v. ITC.*, 180 F.3d 1354, 1365 (Fed. Cir. 1999).
3. Miller testified that the cathode was on sale more than a year before the filing date. To establish the existence that the claimed invention or device was on sale prior to the critical date there must be corroboration of testimony from a witness. *Finnegan Corp.*, 180 F.3d at 1369.
4. Lesker has offered documents and things from which a reasonable jury may find evidence to corroborate Miller's testimony to meet the burden of proof.
5. There is a genuine dispute of fact on the existence of corroboration for Miller's testimony. That fact will have a bearing on the result. The fact is therefore material.
6. Sierra's Motion for Summary Judgment in Sierra's favor and against Lesker's assertion that Patent '028 is invalid because the cathode in